

AMENDMENTS TO THE CLAIMS

Listing of Claims

The following listing of claims replaces all prior versions and listings of claims in the application.

1. (Currently amended): A system for assisting regeneration of a storage/release NOx trap integrated in an exhaust line [[(5)]] of a motor vehicle diesel engine [[(4)]], the system comprising gas admission means for admitting gas into the engine, means for injecting fuel [[(11)]] into the cylinders thereof in the form of at least pilot and main injections, and means for controlling [[(12)]] said gas admission and/or fuel injection means for periodically switching the engine [[(4)]] between a lean mixture standard operating mode in which NOx is stored in the trap [[(6)]] and a rich mixture regeneration operating mode ~~with at least two pilot injections (1, 2) and one main injection (3)~~, in which NOx is released from the trap [[(6)]] and the trap is then regenerated, wherein in a rich-mixture regeneration operating mode, the injection means are suitable for implementing at least two pilot injections triggered in a crankshaft angle range from approximately 50° to approximately 5° ahead of the top dead centre point of the cylinder concerned and the main injection is triggered in an undercalibrated range up to a crankshaft angle of approximately 35° after the top dead centre point.

2. (Currently amended): A system according to claim 1, ~~characterized in that~~ wherein the control means [[(12)]] are adapted to control the gas admission means to reduce the quantity of gas admitted into the engine [[(4)]] when said engine is in its regeneration mode of operation.

3. (Currently amended): A system according to claim 1, ~~characterized in that~~ wherein the control means [[(12)]] are adapted to control the gas admission means and/or the fuel injection means [[(11)]] in accordance with the standard and regeneration modes of operation for engine loads below a predetermined threshold value.

4. (Currently amended): A system according to claim 3, ~~characterized in that~~ wherein the predetermined load threshold value is defined by a brake mean effective pressure (bmeP) of

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approximately 3 bars.

5. (Currently amended): A system according to any preceding claim 1, characterized in that wherein the engine [[(4)]] is associated with exhaust gas recirculation means [[(9)]] for recirculating exhaust gas to its inlet, and the control means [[(12)]] are adapted to regulate the operation of the recirculation means [[(9)]] during operation of the engine with a rich mixture.

6. (Canceled)

7. (Currently amended): A system according to any of the preceding claims claim 1, characterized in that wherein the control means [[(12)]] are adapted to control the gas admission means and/or the injection means [[(11)]] to operate the engine [[(4)]] with a lean mixture for approximately 60 seconds and a rich mixture for approximately 2 seconds.